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ABSTRACT

Tellegen and Atkinson suggested that the trait of absorption may play a part in meditative skill, creativity, capacity for peak experiences, and empathy. Although the absorption-meditative skill relationship has been confirmed, other predictions have not been tested. Tellegen and Atkinson's Absorption Scale was completed by undergraduates in four separate studies. Subjects (N=117) in Study 1 also completed several cognitive measures of creativity. Subjects (N=106) in Study 2 completed two measures of their tendency to have peak experiences. Subjects (N=123) in Study 3 completed Hogan's Empathy Scale. Subjects (N=101) in Study 4 completed the Minnesota Multiphasic Personality Inventory. Results suggest that absorption is associated with creative ability, the tendency to have peak experiences, a capacity for empathy, and psychotic pathology. The research suggests that absorption, hypnotic susceptibility, creativity, the tendency to have peak experiences, empathy, hypochondriasis, paranoia, psychasthenia, and hypomania are all aspects of the psychoticism dimension of personality proposed by Eysenck and Eysenck. (NRB)

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Absorption, Creativity, Peak Experiences,
Empathy, and Psychoticism

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Absorption, Creativity, Peak Experiences, Empathy, and Psychoticism

The study of hypnosis has involved two basic strategies: the study of the effects of induction and task variables on the hypnotic process and the study of individual differences in hypnotic susceptibility. Although the latter strategy was greatly facilitated by the creation of reliable measures of hypnotic susceptibility such as the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962) and the Stanford Hypnotic Susceptibility Scale, Forms A, B, and C (Weitzenhoffer & Hilgard, 1959; 1962), early research on individual differences in hypnotizability was disappointing. Researchers were unable to find consistent relationships between hypnotic susceptibility and scales from established personality inventories such as the California Personality Inventory, 16 Personality Factor Scale, Guilford-Zimmerman, Minnesota Multiphasic Personality Inventory, and Maudsley Personality Inventory (Barber, 1969; Hilgard, 1965). It was not until researchers began investigating hypnotic-like phenomena that they began to find relationships. Using both interviews and questionnaires, J. Hilgard (1970) found that hypnotic susceptibility was associated with "empathic identification" while reading, involvement in the dramatic arts, religion, nature, and adventure, a history of childhood imagination, and creative activity. Attempts to construct scales to measure hypnotic-like experiences (As, 1963; As & Lauer, 1962; As, O'Hara & Munger, 1962; Lee-Teng, 1955; Roberts & Tellegen, 1973; Shor, 1960; Shor, Orne, & O'Connell, 1962) culminated in the creation of the Absorption Scale by Tellegen and Atkinson (1974). These researchers took the items from the earlier scales, added new items, and then factor-analyzed this pool of items to create a single measure which they called Openness to Absorbing and Self-Altering Experiences, or simply Absorption. From the scale's item content they concluded that it measured the capacity for "'total'

attention, involving a full commitment of available perceptual, motoric, imaginative and ideational resources to a unified representation of the attentional object" (p. 274). Although absorption was found to be independent of both stability-neuroticism and introversion-extraversion, which some researchers (e.g., Block, 1965) have suggested underly most personality measures, it correlated with both hypnotic susceptibility and hypnotic depth.

In their discussion of the trait absorption Tellegen and Atkinson (1974) suggested that it may play a part in meditative skill, creativity, capacity for peak and mystical experiences, and empathy. Although the absorption-meditative skill relationship has been confirmed (Spanos, Rivers, & Gottlieb, 1978) the other predictions have not been tested. The primary purpose of this research was to test the remaining relationships. A second purpose was to investigate the relationship between absorption and psychoticism. Although Tellegen and Atkinson did not suggest a relationship between these two variables, their description of the high absorber as susceptible to altered states of consciousness and suspended reality testing suggests such a relationship. If such a relationship were found, the benign nature of absorption, and by implication hypnotic susceptibility, would have to be reassessed. It would suggest that high absorbers not only are capable of absorbing or taking in real and imagined stimuli but also are susceptible to being absorbed by or being taken over (possessed?) by such stimuli. It is hoped that an investigation of these predictions will broaden our understanding not only of absorption but also of hypnotic susceptibility and the process of hypnosis.

Study I

The primary purpose of this study was to test the hypothesis that absorption is related to creative ability. Although a number of studies have found correlations between hypnotic susceptibility and various measures of creativity (K. Bowers, 1971; 1978; K. Bowers & van dan Muelen, 1970; P. Bowers, 1967; Perry,

Wilder, & Appignaneisi, 1973), it is not clear why these two variables correlate. P. Bowers (1967) originally discovered the relationship serendipitously while attempting to increase creativity through hypnotic suggestion, and the subsequent research has been oriented toward replicating and explaining the relationship. P. Bowers' (1979) latest research suggests that hypnotic susceptibility and creativity are linked "via their common reliance on nonvolitional fantasy processes cued by a task" (p. 564). Since this definition of the link between hypnotizability and creativity is very similar to Tellegan and Atkinson's (1974) definition of absorption as "a tendency to become immersed in movies, acting, nature, voices, past events, etc." (p. 270), absorption may be the link between these two phenomena.

In their review of the literature on creativity Dellas and Gaier (1970) suggested that research on creativity has taken place within two major orientations, the cognitive, "in which analyses are made within the framework of intellectual dimensions--singular intellectual traits and cognitive functioning and styles" (p. 55), and the personological, "in which personality and motivational traits are the foci" (p. 55). To represent both orientations, four cognitive and four personological measures of creativity were used in this research.

Method

Measures

The cognitive measures of creativity used in this study included the Barron-Welsh Art Scale (Barron, 1968; Gough, 1961; MacKinnon, 1961; Welsh & Barron (1963), the Unusual Uses Test (Guilford, 1967), and the Intuition and Perception Scales of the Myers-Briggs Type Indicator (Briggs & Myers, 1976; Gough, 1961; MacKinnon, 1961). The four personological measures of creativity included Barron's (1961, 1968) Ego Strength Scale (Cross, Cattell, & Butcher, 1965; Drevdahl & Cattell, 1958; Hersch, 1962; MacKinnon, 1961; Wild, 1965), the Introversion-Extraversion Scale of the Maudsley (Barron, 1968; Eysenck, 1959; Gough, 1961; MacKinnon, 1961), the

Introversion Scale of the Myers-Briggs Type Indicator (Barron, 1968; Briggs & Myers, 1976; Gough, 1961; MacKinnon, 1961), and Barron's (1968) Independence of Judgement Scale. Absorption was measured by the scale created by Tellegen and Atkinson (1974).

Subjects

Sixty-six women and 51 men, students in introductory psychology classes at Western Illinois University, participated in this study. For participation subjects received points toward their final grades.

Procedure

Subjects filled out the nine scales in their homes at their leisure and returned them to the experimenters upon completion.

Results

Since previous research on hypnotic susceptibility and creativity has occasionally found a relationship only for women (K. Bowers, 1971; Perry, Wilder & Appignanesi, 1973), the data were analyzed separately for women and men. For women Absorption correlated positively with the Barron-Welsh Art Scale (.21), Unusual Uses (.48), Intuition (.44), and Maudsley Introversion-Extroversion (.28), and negatively with Myers-Briggs Introversion (-.29). Since creative people were predicted to be more introverted than noncreative people, the latter two correlations do not support the hypothesis that absorption correlates positively with creativity. For men, Absorption correlated positively with the Myers-Briggs Intuition (.41) and Perception (.35) Scales. Thus absorption was found to correlate positively with all of the cognitive measures of creativity (either for men, women, or both sexes) and none of the personological measures. Some support was thus found for the hypothesis that absorption is correlated with creativity.

Study II

Tellegan and Atkinson (1974) suggested that since peak experiences (Maslow, 1968) involve "fascination" and "complete absorption," high absorbers should have a greater tendency to have such experiences than low absorbers. The purpose of this study was to test the hypothesis that absorption is positively correlated with tendency to have peak experiences.

Method

Measures

The measures used in this study included the Absorption Scale and two measures of tendency to have peak experiences: the Peak Experience Open Ended Scale and the Peak Experience Objective Scale. The Peak Experience Open Ended Scale simply involved asking subjects to list all of the peak experiences which they could remember. A subject's score was the total number of listed experiences. To aid subjects' memories they were given Whittaker's (1970) nine categories of peak experiences (academic, social, artistic, athletic, nature, altruistic, sexual, drugs, and political) and an example of each. Space was given following each category for subject responses.

The Peak Experience Objective Scale was developed by translating into items the content of Maslow's (1970) extensive description of the peak experience found in Appendix A of his book Religions, Values, and Peak Experiences. A total of 143 items requiring a true or false response were written. These were then administered to 116 introductory psychology students at Western Illinois University, and an internal consistency item analysis was carried out. All items which did not correlate .30 ($p < .005$) or greater with total score were discarded, leaving 82 items. These were then given to a fresh sample of 62 women and 52 men, students at Western Illinois University; another item analysis was subsequently carried out separately for women and men. Those items which correlated significantly ($p \leq .05$; one-tailed test) with total score for both female and male

samples were retained for the final scale. This scale contained 70 items. When given to yet another sample of women and men it was found to have internal consistency reliabilities of .94 for women and .96 for men.

Subjects

Forty-seven women and 59 men, introductory psychology students at Western Illinois University, participated in this study. For participating subjects received points toward their final grades.

Procedure

The Absorption Scale, Peak Experience Open Ended Scale, and Peak Experience Objective Scale were given to subjects in large groups either during class or at specially scheduled times.

Results

The data were analyzed by intercorrelating the three scales. For the whole sample all three scales intercorrelated: The Peak Experience Open Ended Scale correlated .21 ($p < .05$) with the Peak Experience Objective Scale, thus providing validation data for both scales. Absorption correlated .20 ($p < .05$) with the Peak Experience Open Ended Scale and .46 ($p < .005$) with the Peak Experience Objective Scale. Similar results were found when the data were analyzed separately for men and women except that for women absorption did not correlate with the Peak Open Ended Scale. Thus the results of this study support the hypothesis that high absorbers are more prone to have peak experiences than low absorbers.

Study III

Tellegen and Atkinson (1974) have suggested that at times the high absorber becomes so involved in the experiencing of another person that the high absorber experiences an equivalence of himself and the person to whom he attends. Thus absorption should correlate highly with the capacity for empathy. The purpose of this study was to test this hypothesis.

Measures

The measures used in this study were the Absorption Scale and Hogan's (1973) Empathy Scale.

Subjects

Sixty-three women and 60 men, students in introductory psychology classes at Western Illinois University, participated in this study. For participating subjects received points toward their final grades.

Procedure

Subjects filled out the various measures in large groups.

Results

The data were analyzed by correlating Absorption with Empathy. For the whole sample Absorption correlated .32 ($p < .005$) with empathy. When the data were analyzed separately for women and men Absorption correlated .25 ($p < .05$) with Empathy for women and .37 ($p < .05$) for men. The results of this study supported the hypothesis that high absorbers tend to have a greater capacity for empathy than low absorbers.

Study IV

Although Tellegen and Atkinson (1974) did not suggest that high absorbers may be more susceptible to psychotic psychopathologies than low absorbers, their description of high absorbers as susceptible to "an altered sense of reality and of the self in particular" (p. 274) suggests that this may be the case. The purpose of this study was to test the hypothesis that absorption and psychoticism are related.

Method

Measures

The measures used in this study included the Absorption Scale and the Minnesota Multiphasic Personality Inventory.

Subjects

Forty women and 61 men, students in introductory psychology courses at Western Illinois University, participated in this study. For participating subjects received points toward their final grades.

Procedure

Subjects filled out the Absorption Scale and the MMPI in large groups.

Results

The data were analyzed by correlating Absorption scores with the various scales of the MMPI. When the data were analyzed for both women and men together, Absorption was found to correlate $-.45$ ($p < .005$) with K, $.30$ ($p < .005$) with F, $.37$ ($p < .005$) with Hypochondriasis, $.22$ ($p < .01$) with Psychopathic Deviant, $.27$ ($p < .005$) with Masculinity-Femininity, $.35$ ($p < .005$) with Paranoia, $.54$ ($p < .005$) with Psychasthenia, $.48$ ($p < .005$) with Schizophrenia, $.59$ ($p < .005$) with Hypomania, and $.17$ ($p < .05$) with Social Introversion. Similar results were found when the data were analyzed separately for women and men. For women absorption correlated $-.45$ ($p < .005$) with K, $.32$ ($p < .025$) with F, $.44$ ($p < .005$) with Hypochondriasis, $.43$ ($p < .005$) with Paranoia, $.59$ ($p < .005$) with Psychasthenia, $.55$ ($p < .005$) with Schizophrenia, $.63$ ($p < .005$) and with Hypomania. For men absorption correlated with $-.48$ ($p < .005$) with K, $.34$ ($p < .005$) with F, $.24$ ($p < .05$) with Hypochondriasis, $.29$ ($p < .025$) with Psychopathic Deviant, $.22$ ($p < .01$) with Masculinity-Femininity, $.37$ ($p < .005$) with Paranoia, $.51$ ($p < .005$) with Psychasthenia, $.47$ ($p < .005$) with Schizophrenia and $.54$ ($p < .005$) with Hypomania. Further analysis involving scoring the MMPI for Repression-Sensitization revealed correlations of $.41$ ($p < .005$) for men and $.54$ ($p < .005$) for women between Absorption and Repression-Sensitization.

The results of this study clearly support the hypothesis that absorption is associated with psychotic process. All four of the psychotic scales, Paranoia,

Psychasthenia, Schizophrenia, and Hypomania, correlated with Absorption for both women and men. Only one of the three neuroticism scales, Hypochondriasis, correlated with Absorption. Although the latter result is consistent with the claim of Tellegen and Atkinson (1974) that absorption is independent of the Stability-Neuroticism dimension of personality, it is also a bit surprising. Historically, hysteria, not hypochondriasis, has been associated with hypnotic susceptibility (E.R. Hilgard, 1977). The results of this study radically challenge our conception of absorption (and by implication, hypnotic susceptibility) as benign traits. Although absorption may facilitate creative productivity and empathic understanding it may also predispose an individual to psychotic breakdown. Absorption apparently refers not only to the ability to capture a stimulus, mental image, or idea but also to a vulnerability to being captured by a stimulus, mental image (e.g., hallucination), or idea (e.g., delusion).

The high correlation between Absorption and Repression-Sensitization suggests that the high absorber is not only open to experience as suggested by Tellegen and Atkinson (1974), but is also unable to defend or insulate himself against the environment, whether it be outside or inside his head in the form of obsessions, compulsions, worries, etc.

Finally, the results of this study are consonant with an earlier study in which hypnotic susceptibility was found to correlate with the F, K (negative correlation), Hs, Pd, Pt, Sc, and Ma scales of the MMPI (Hilgard, Lauer & Cuca, 1965). Although these results were dismissed as a product of acquiescent response set, the present results suggest that perhaps there was something more substantial in the results. This is particularly true in light of the demonstration of Tellegen and Atkinson (1974) that Absorption correlates only .13 with tendency to give affirmative answers. The present results are also consistent with studies which have found that creativity correlates with various kinds of psychotic pathology (Barron, 1968; Hirsch, 1962; Wild, 1965).

Discussions and Conclusions

The results of these studies support the prediction of Tellegen and Atkinson (1974) that absorption is associated with creative ability, tendency to have peak experiences, and capacity for empathy, and the prediction that it is related to psychotic pathology. The results of these studies, particularly the last one, call for a modification in our thinking about absorption and hypnotic susceptibility. Absorption appears to involve much more nonvoluntary possession by stimuli, mental images, and ideas than was originally realized. This conclusion is consistent with a number of other observations. P. Powers has (1979) repeatedly pointed out that the process which hypnotic susceptibility and creativity share is a "nonvoluntary fantasy process cued by a task" (p. 564). Maslow (1970) has pointed out that peak experiences can neither be created nor ended by an act of volition, and James (1902/1961) has made a similar point concerning mystical experiences: "Although the oncoming of mystical states may be facilitated by preliminary voluntary operations, as by fixing the attention, or going through certain bodily performances, or in other ways which manuals of mysticism prescribe; yet when the characteristic sort of consciousness once has set in the mystic feels as if his own will were in obedience, and indeed sometimes as if he were grasped and held by a superior power" (p. < 300). As a result of his research on highly empathic individuals, Hogan (1973) states that they suffer from an excess of role taking: "They are too concerned with the expectations of others, they excessively inhibit hostility and aggression and they suffer from identity diffusion." Elsewhere he describes them as "equivocating jellyfish." Finally, the traditional picture of the hypochondriac, paranoid individual, psychasthenic, schizophrenic, and hypomaniac all involve elements of possession. The hypochondriac cannot free himself from concern over nonexistent diseases; the paranoid individual is plagued by delusions of persecution and/or grandeur; the psychasthenic is obsessed by certain thoughts and compelled to carry out certain

behaviors; the schizophrenic hears voices and experiences other hallucinations; and the hypomaniac is captivated by great schemes.

Although Tellegen and Atkinson (1974) make a special point of Absorption's independence from introversion-extroversion and stability-neuroticism, they offer no hints concerning its place in personality structure. The results of this research suggest that absorption, hypnotic susceptibility, creativity, tendency to have peak experiences, empathy, hypochondriasis, paranoia, psychasthenia, and hypomania are all aspects of the psychoticism dimension of personality proposed by Eysenck and Eysenck (1977).

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